

Instruction Manual

HAS9xE-IM-ATEX

07/2005

CAT 100 CAT 200 Continuous Analyzer Transmitter



ROSEMOUNT[®]
Analytical

www.EmersonProcess.com


EMERSON[™]
Process Management

ESSENTIAL INSTRUCTIONS

READ THIS PAGE BEFORE PROCEEDING!

Emerson Process Management (Rosemount Analytical) designs, manufactures and tests its products to meet many national and international standards. Because these instruments are sophisticated technical products, you **MUST properly install, use, and maintain them** to ensure they continue to operate within their normal specifications. The following instructions **MUST be adhered to** and integrated into your safety program when installing, using and maintaining Emerson Process Management (Rosemount Analytical) products. Failure to follow the proper instructions may cause any one of the following situations to occur: Loss of life; personal injury; property damage; damage to this instrument; and warranty invalidation.

- **Read all instructions** prior to installing, operating, and servicing the product.
- If you do not understand any of the instructions, **contact your Emerson Process Management (Rosemount Analytical) representative** for clarification.
- **Follow all warnings, cautions, and instructions** marked on and supplied with the product.
- **Inform and educate your personnel in the proper installation, operation, and maintenance of the product.**
- **Install your equipment as specified in the Installation Instructions of the appropriate Instruction Manual and per applicable local and national codes.** Connect all products to the proper electrical and pressure sources.
- To ensure proper performance, **use qualified personnel** to install, operate, update, program, and maintain the product.
- When replacement parts are required, ensure that qualified people use replacement parts specified by Emerson Process Management (Rosemount Analytical). Unauthorized parts and procedures can affect the product's performance, place the safe operation of your process at risk, **and VOID YOUR WARRANTY**. Look-alike substitutions may result in fire, electrical hazards, or improper operation.
- **Ensure that all equipment doors are closed and protective covers are in place, except when maintenance is being performed by qualified persons, to prevent electrical shock and personal injury.**

The information contained in this document is subject to change without notice.

2nd edition 07/2005

1st edition 07/2004

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EMERSON
Process Management

PREFACE

This instruction manual provides information about installing, operating and maintaining/servicing CAT series gas analyzers in hazardous (classified) areas and shall be read in conjunction with the standard analyzer instruction manual only!

This instruction manual covers all analyzer variations and and therefore may describe configurations and/or options not part of your specific instrument.

DEFINITIONS

The following definitions apply to WARNINGS, CAUTIONS and NOTES found throughout this publication.

WARNING

Highlights an operation or maintenance procedure, practice, condition, statement, etc.

If not strictly observed, could result in injury, death, or long-term health hazards of personnel.

CAUTION

Highlights an operation or maintenance procedure, practice, condition, statement, etc.

If not strictly observed, could result in damage to or destruction of equipment, or loss of effectiveness.

NOTE

Highlights an essential operating procedure, condition or statement.

Further graphical symbols may be used within this manual:



Elektrostatic discharge (ESD)



Explosion Hazard!



Heavy Instrument!



Harmful (to Health)!



Toxic!



Disconnect from Mains!

All graphical symbols used in this product are from one or more of the following standards: EN61010-1, IEC417, and ISO3864.

Safety Instructions

SAFETY INSTRUCTIONS**INTENDED USE STATEMENT**

CAT series gas analyzers are intended to be used as analyzers for industrial purposes. They must not be used in medical, diagnostic or life support applications, and no independent agency certifications or approvals are to be implied as covering such applications!

SAFETY SUMMARY

If this equipment is used in a manner not specified in these instructions, protective systems may be impaired.

AUTHORIZED PERSONNEL

To avoid explosions, loss of life, personal injury and damage to this equipment and on-site property, do not install, operate or service this instrument before reading and understanding this instruction manual and receiving appropriate training. Save these instructions.

ADDITIONAL LITERATURE

This manual covers aspects specific for using CAT analyzers in hazardous (classified) areas, only.

To install, start-up, operate and maintain/service the instrument in a safe manner it is MANDATORY to read all additional instruction manuals shipped together with the instrument!

The following instruction manuals are available and/or referenced within this manual at hand:

CAT 100:

HAS1xE-IM-HS Instruction manual BINOS 100 series

CAT 200:

HAS3xE-IM-HW Hardware instruction manual NGA MLT series

HAS3xE-IM-SW39 Instruction NGA MLT software V 3.9.x

(Software instruction manual depends on currently installed analyzer software of the internal NGA MLT module)

Contact your local service center or sales office when missing documents. Save all instructions for future use!

Safety Instructions

WARNING

EXPLOSION HAZARD BY MODIFICATION



Any addition, substitution, or replacement of components installed on or in this device, must be certified to meet the hazardous area classification that the device was certified to prior to any such component addition, substitution, or replacement. In addition, the installation of such device or devices must meet the requirements specified and defined by the hazardous area classification of the unmodified device. Any modifications to the device not meeting these requirements, will void the product certification(s).

CAUTION

PARTS INTEGRITY AND UPGRADES



Tampering with or unauthorized substitution of components may adversely affect the safety of this instrument. Use only factory approved components for repair.

Because of the danger of introducing additional hazards, do not perform any unauthorized modification to this instrument.

Contact Rosemount Analytical Inc., Customer Service Center for Return Authorization.

WARNING

POSSIBLE EXPLOSION HAZARD



Do not open instrument when energized.

Ensure that external circuitry is disconnected or de-energized before opening the instrument.



Ensure that all gas connections are made as labeled and are leak free. Improper gas connections could result in explosion and death.

Safety Instructions**WARNING****POSSIBLE EXPLOSION HAZARD**

The CAT analyzer may utilize not only sample gas but one or more pressurized carrier gases and/or calibration gases.



If an internal flowmeter is not used, an external flowmeter is required for flow control. Legislative requirements and instructions for installation in hazardous (classified) areas must be considered.

WARNING**POSSIBLE EXPLOSION HAZARD**

When installing these instruments all legislative requirements must be taken into consideration! Take care of the special conditions given within the instruction drawing in the manual on hand!

HOW TO STAY IN COMPLIANCE WITH THE EUROPEAN DIRECTIVE 94/9/EC („ATEX“) WHEN PERFORMING GAS ANALYSIS WITHIN A FLAMEPROOF ENCLOSURE.

Special conditions apply to using a flameproof enclosure analyzer under the scope of the "European Directive for Equipment used in Explosive Atmosphere" (Directive 94/9/EC; ATEX). To stay compliant to the directive please consider the following clarification sheet released by the European ATEX Notified Body Group:

Safety Instructions

ExNB	Co-ordination of Notified Bodies Electrical Equipment for use in potentially explosive atmospheres on Council Directive 94/9/EEC	EOTC/00/007 Issued: February 10, 2000 <u>CS/99/06/069</u>
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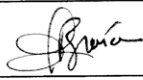
European ATEX Notified Bodies Group

Interpretation/Clarification Sheet N° 99/06/069/CS Edition 1.0

Original in English

Status :	Step* 5.2.1 ■ question ExNB/98(EECS)002	Date : 20/04/98
	Step* 5.2.3 ■ proposal	Proposer : DMT
	Step* 5.2.4 ■	Received for publication
		Date : 05/06/98
		Date : 15-16/06/99

*Step refers to ExNB Rules

■ authorised	Chairman : M. BRÉNON	
Date of application : 16/06/99	Signature :	

SUBJECT : EN 50018 : 1994 Gas analysis performed within a flameproof enclosure

Question : *What restrictions are necessary on the contents of the gas system/process line in order to validate the use of « Flameproof Enclosure » as the protection concept.*

- Answer :**
- 1 Oxygen shall be present in the process line only as a constituent of an inert/oxygen gas mixture of which the oxygen represents no more than that normally present in air.
 - 2 The gas mixture in process line shall not be within the explosive limits continuously, for long periods or frequently.

If the gas mixture is above UEL in normal service, gas leakage into the main enclosure due to failure of the gas containment shall not remain undetected for long periods.

If the gas mixture is above UEL in normal service and if the gas measuring system contains potential ignition sources (e.g. heated wires) in the process line, the line shall be purged with process gas before the measuring system is activated and the measuring system shall be de-activated before shut down of the process.
 - 3 If the pressure in the process line in normal operation is higher than 1.1 bar, the following applies :
 - 3.1 The gas mixture shall not be within the explosive limits in normal operation. This can be realized e.g. by purging the line with process gas or with inert gas before the measuring system is activated.
 - 3.2 Even in case of total leakage of the gas containment, the pressure in the main enclosure shall not be higher than 1.1 bar.
 - 3.3 The process line shall not contain potential sources of ignition and, taking into account the maximum pressure in service, the breathing devices shall be tested with respectively precompressed mixtures.

This ExNB Interpretation/Clarification Sheet has the sole purpose of clarifying the application of the EN Standards and/or of the requirements of Directive 94/9/EC and related documents. It does not in any way change the content of the standards and/or of the requirements. It remains valid until an official answer is received from the European Commission or the relevant standardization bodies.

Compliances

Compliances

This product is certified by several agencies for the use in hazardous (classified) areas. The following certification marks appear on the product's nameplate label:

Zone classification:

USA	Class I Zone 1 AEx d e m IIB + H2 T4X
Canada	Ex d e m IIB + H2 T4X
European Union	ATEX, category 2, Zone 1, EEx d e m IIB + H2 T4X

USA/Canada

Certified by the Canadian Standards Association, an „OSHA Nationally Recognized Testing Laboratory“ (NRTL) for USA and Kanada



European Union (EU)


Conforms with the provisions of the EMC Directive 89/336/EEC, Potentially Explosive Atmospheres Directive 94/9/EC and CE Directive 93/68/EEC.

EC ATEX Type Examination Certificate: LCIE 00 ATEX 6009 X.

EMERSON Process Management submitted samples for type examination of conformance to an independent Notified Body (Laboratoire Central des Industries Electriques; LCIE), which issued a type examination certificate.

Analyzer markings:

 0035
  II 2 G
 LCIE 98 ATEX 6009 X
 EEx d e m IIB+H₂ T4
 0° C to +50° C IP66


 AEx d e m IIB+H₂ T4
 Ex d e m IIB+H₂ T4
 Class I Zone 1 IIB+H₂
 0° C to +50° C

The appendix contains a copy of the type examination certificate.

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Chapter 1 Installation

WARNING

POSSIBLE EXPLOSION HAZARD

Installing and wiring this instrument must comply with all relevant national legislative requirements and regulations.



Consider all safety instructions within this on hand manual and all associated analyzer instruction manuals!

Take care of the special instructions at the installation drawing at the next page!

WARNING

POSSIBLE EXPLOSION HAZARD



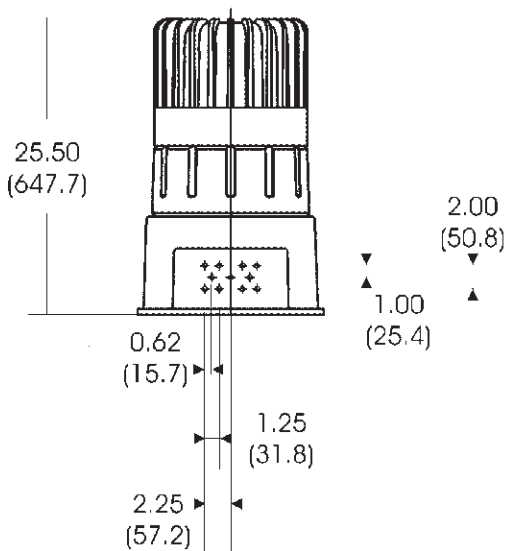
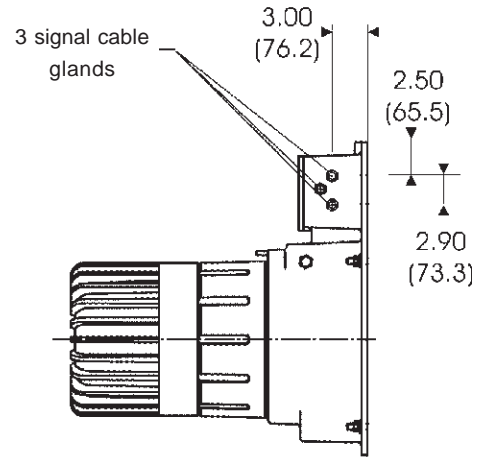
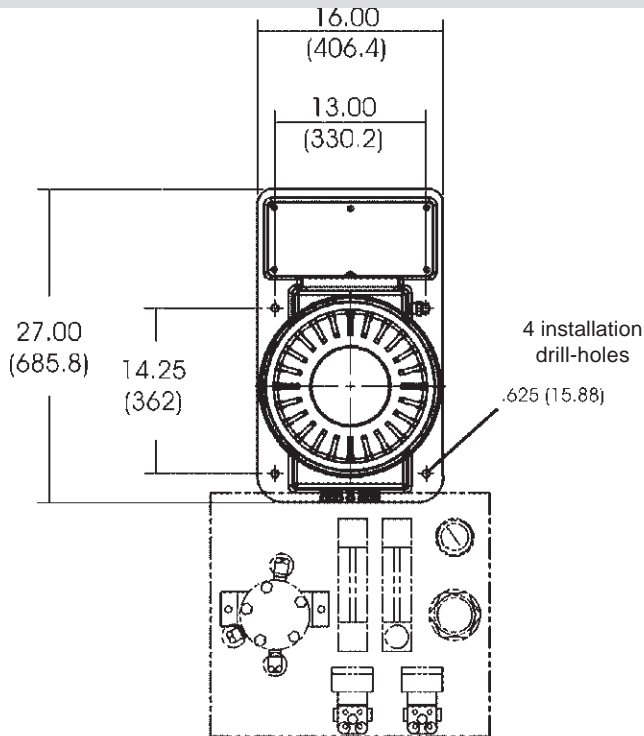
Installing this instrument requires opening the enclosure and working at the open instrument. This is permitted only when both no hazardous atmosphere is present and the instrument and connected external circuitry are de-energized!



Depending on the local regulation this may require a competent hot work supervisor to issue a hot work permit.

More detailed instructions about installing these instruments are given by the associated analyzer instruction manual.

1 Installation



- A. EEx e junction box
- B. Threads for cable glands for analog and digital signal cables (M16 x 1,5)
- C. 11 gas fittings (number depending on application; flame arrestors inside gas inlets and outlets).
- D. Optional sample handling system, design depending on applicational needs.

Note:
 Junction box must be protected by fuse supply, which has a breaking capacity adjusted to the short circuit of the equipment (10 amps / 250 VAC).

Fig. 1: Installation drawing and analyzer dimensions, inch (mm)

Chapter 2 Startup

Once the CAT analyzer is installed correctly and in accordance to the instructions given in chapter „Installation“ it is prepared for startup.

WARNING

POSSIBLE EXPLOSION HAZARD



Ensure all covers, plugs and housing parts are in place and secured properly before supplying mains and signal voltages!



Ensure all requirements given by the clarification sheet for performing gas analysis within a flameproof enclosure are considered BEFORE supplying gases (see page S-6)!

This sheet gives instructions, too, for the sequence of supplying gases during process and analyzer startup .

After all safety aspects are followed and checked the instrument may be powered and operated according the instructions given in the related instrument's instruction manual.

2 Startup

CHAPTER 3 SERVICE AND MAINTENANCE

WARNING

POSSIBLE EXPLOSION HAZARD



Inspection, maintenance and service must be carried out considering all related standards (e.g. EN 60079-17 “Inspection and maintenance of electrical installations in hazardous areas (other than mines)”

WARNING

POSSIBLE EXPLOSION HAZARD



Service or replacement of safety related components or requiring to open the instrument are permitted only if no hazardous atmosphere is present and both the instrument and connected circuitry are de-energized!



Depending on the local regulation this may require a competent hot work supervisor to issue a hot work permit.

WARNING

POSSIBLE EXPLOSION HAZARD



After maintenance or replacement of parts concerning explosion protection an authority on explosion protection has to verify that the analyzer still meets the requirements for explosion protection before it is switched on again.

Parts essential for explosion protection must not be repaired, they have to be replaced if defective!

The authority has to issue a certificate for this and/or attach a test label to the equipment before startup after maintenance or replacement of parts.

3 Service and Maintenance**WARNING****FLAMMABLE GASES - POSSIBLE EXPLOSION HAZARD**

Leaks may cause explosion when measuring flammable gases!

When measuring flammable gases it is recommended to perform a leak test on all gas paths, connections and components before startup or applying power. Leak tests should be carried out on a 2 month's regular basis and after repair/maintenance.



See the analyzer instruction manual for instructions on how to carry out leak tests.

WARNING**FLAMMABLE GASES - POSSIBLE EXPLOSION HAZARD**

When measuring flammable gases it is recommended to purge the system with air or an inert gas, e.g. nitrogen, prior to opening the enclosure.



Violation may cause an explosion!

More detailed instructions about servicing and maintaining CAT analyzers are subject of the associated analyzer instruction manuals.

APPENDIX

This chapter contains series CAT EC declarations of conformity and EC type examination certificates.

A-1 EC Declaration of Conformity

A-1 EC Declaration of Conformity

EC DECLARATION OF CONFORMITY

Document number: RAE/CAT -ATEX-E3
 Date: June 2004

We,

**Emerson Process Management
 Manufacturing GmbH & Co. OHG**

located at

Industriestraße 1, D-63594 Hasselroth, Germany

declare under our sole responsibility that our gas analyzer, type

CAT

to which this declaration relates is in conformity with the provisions of:

89/336/EEC EMC Directive (changed by directive 91/263/EEC 92/31/EEC and 93/68/EEC)
 with the application of the harmonized standards including the latest amendments:
 EN 61326-1:1997 + A1:1998 + A2:2001 + A3:2003

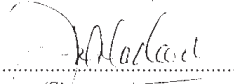
94/9/EC Equipment and protective systems in potentially explosive atmospheres
 with the application of the harmonized standards including the latest amendments:
 EN 50014:1992
 EN 50018:1994
 EN 50019:1994
 EN 50028 :1987

97/23/EC Pressure Equipment Directive
 This analyzer has been designed and manufactured considering article 3, paragraph 3 of the above mentioned directive and therefore CE marking does not refer to this directive.

The standards published in the EC's OFFICIAL JOURNAL with reference to directive 73/23/EC (e.g. EN 61010) have been used to fulfill 1.2.7 of Annex II of directive 94/9/EC to eliminate electrical risks.

This declaration relates to series CAT analyzers intended to be used at hazardous locations. An EC Type Examination Certificate, LCIE 00ATEX 6009 X, has been obtained from a notified body.

Hasselroth, 6/30/2004



.....
 (Signature)
Jan Macleod
 (Name)
VP Sales & Marketing EMA
 (Function name)

This declaration confirms the compliance with announced directives but does not include the assurance of properties. The safety and installation instructions of the documentation have to be followed.

A-2 EC Type Examination Certificates

A-2 EC Type Examination Certificates



<p>1 ATTESTATION D'EXAMEN CE DE TYPE</p> <p>2 Appareils et systèmes de protection destinés à être utilisés en atmosphères explosibles Directive 94/9/CE</p> <p>3 Numéro de l'attestation CE de type LCIE 00 ATEX 6009 X</p> <p>4 Appareil ou système de protection Transmetteur pour analyseur en continu Type CAT ...</p> <p>5 Demandeur : Rosemount Analytical Inc.</p> <p>6 Adresse : 4125 E La Palma Avenue Anaheim, California 92807-1802 USA</p> <p>7 Cet appareil ou système de protection et ses variantes éventuelles acceptées est décrit dans l'annexe de la présente attestation et dans les documents descriptifs cités en annexe.</p> <p>8 Le LCIE, organisme notifié sous la référence 0081 conformément à l'article 9 de la directive 94/9/CE du Parlement européen et du Conseil du 23 mars 1994, certifie que cet appareil ou système de protection est conforme aux exigences essentielles en ce qui concerne la sécurité et la santé pour la conception et la construction d'appareils et de systèmes de protection destinés à être utilisés en atmosphères explosibles, données dans l'annexe II de la directive. Les vérifications et épreuves figurent dans notre rapport confidentiel N° 15 098 010.</p> <p>9 Le respect des exigences essentielles en ce qui concerne la sécurité et la santé est assuré par la conformité aux documents suivants : - EN 50014 (1992) - EN 50018 (1994) - EN 50019 (1994) - EN 50028 (1987)</p> <p>10 Le signe X lorsqu'il est placé à la suite du numéro de l'attestation, indique que ce matériel ou système de protection est soumis aux conditions spéciales pour une utilisation sûre, mentionnées dans l'annexe de la présente attestation.</p> <p>11 Cette attestation d'examen CE de type concerne uniquement la conception et la construction de l'appareil ou du système de protection spécifié, conformément à la directive 94/9/CE. Des exigences supplémentaires de cette directive sont applicables pour la fabrication et la fourniture de l'appareil ou du système de protection.</p> <p>12 Le marquage de l'appareil ou du système de protection devra comporter, entre autres indications utiles, les mentions suivantes : 0081 II 2 G EEx d e m IIB + H₂ T4</p>	<p>1 EC TYPE EXAMINATION CERTIFICATE</p> <p>2 Equipment or Protective System Intended for use in Potentially explosive atmospheres Directive 94/9/CE</p> <p>3 EC type Examination Certificate number LCIE 00 ATEX 6009 X</p> <p>4 Equipment or Protective system Continuous Analyzer Transmitter Type CAT ...</p> <p>5 Applicant : Rosemount Analytical Inc.</p> <p>6 Address : 4125 E La Palma Avenue Anaheim, California 92807-1802 USA</p> <p>7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.</p> <p>8 LCIE, notified body number 0081 in accordance with article 9 of the directive 94/9/CE of the European Parliament and Council of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmospheres, given in Annex II to the directive. The examination and test results are recorded in confidential report No 15 098 010.</p> <p>9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with : - EN 50014 (1992) - EN 50018 (1994) - EN 50019 (1994) - EN 50028 (1987)</p> <p>10 If the sign X is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.</p> <p>11 This EC Type examination certificate relates only to the design and construction of this specified equipment or protective system in accordance with the Directive 94/9/EC. Further requirements of Directive applies to the manufacture and supply of this equipment or protective system.</p> <p>12 The marking of the equipment or protective system shall include the following : 0081 II 2 G EEx d e m IIB + H₂ T4</p>
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Fontenay-aux-Roses, le 2 mai 2000

Le Directeur de l'organisme certificateur
 Manager of the certification body

Timbre sec/dry seal

Par délégation
 Michel BRÉNON
 Directeur adjoint
 à la Certification

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Siège social : 33, avenue du Général Leclerc - F 92260 Fontenay-aux-Roses - Tél. : +33 (0)1 40 95 60 60

A-2 EC Type Examination Certificates



(A1) ANNEXE

(A2) ATTESTATION D'EXAMEN CE DE TYPE

LCIE 00 ATEX 6009 X

(A4) Description de l'équipement ou du système de protection

Le type CAT (Transmetteur pour analyseur en continu) présente une conception complètement modulaire incluant une enveloppe antidéflagrante et une boîte de sécurité augmentée.

L'alimentation électrique (puissance et communications) se fait dans la boîte de jonction de sécurité augmentée.


Les connexions entre la boîte de sécurité augmentée et la boîte antidéflagrante se font à travers 3 traversées de cloison EEx scellées.

La liaison entre les bornes de sécurité augmentée EEx e et les traversées de cloisons EEx d comprend un filtre/Ferrite EMI protégé par encapsulation EEx m.

Le type CAT a été conçu pour la mesure en continu de 1 à 3 composants dans un seul analyseur.

Tension 115 ou 230 V C.A., 50/60 Hz, Puissance : 180 W

Le marquage sera le suivant :

- Rosemount Analytical Inc.
- Type : CAT ...
- N° de fabrication : ...
- Année de fabrication : ...
-  II 2 G
- EEx d e m IIB + H₂ T4
- LCIE 00 ATEX 6009 X
- Caractéristiques électriques
- Température ambiante : + 0 °C à + 50 °C
- IP55
- Ne pas ouvrir sous tension

- *Prudence* : Ne pas mettre en service avant d'avoir lu et compris le manuel d'instructions et sans avoir reçu la formation appropriée.

Le marquage CE est accompagné du numéro d'identification de l'organisme notifié responsable de la surveillance du système de qualité (0081 pour le LCIE).

(A4) Documents descriptifs

Dossier technique du 3 avril 2000.
Ce document comprend 26 rubriques (37 pages).

(A1) SCHEDULE

(A2) EC TYPE EXAMINATION CERTIFICATE

LCIE 00 ATEX 6009 X

(A4) Description of Equipment or Protective System

The model CAT (Continuous Analyzer Transmitter) features a fully modular design housed in a field mountable flameproof (EEx d) and increased safety (EEx e).

Field electrical connections, power and communications, are made to the Increased Safety Junction Box.


The connections from the Increased Safety Junction box into the flameproof enclosure are made through three EEx sealed feed throughs.

The a.c line connection between the EEx e power terminals and the EEx d sealed feed through, incorporates an EMI filter/Ferrite assembly, protected by encapsulation EEx m.

The CAT has been designed to continuously measure from 1 to 3 components in a single analyzer.

Voltage 115 or 230 V AC, 50/60 Hz, Power : 180 W

The marking will be the following :

- Rosemount Analytical Inc.
- Type : CAT ...
- Serial number : ...
- Year of construction : ...
-  II 2 G
- EEx d e m IIB + H₂ T4
- LCIE 00 ATEX 6009 X
- Electrical characteristics
- Ambient temperature : + 0 °C to + 50 °C
- IP55
- Do not open while energized

- *Caution* : Do not operate or service before reading and understanding the instruction manual and receiving appropriate training.

The CE marking shall be accompanied by the identification number of the notified body responsible for surveillance of the quality system (0081 for the LCIE).

(A4) Descriptive documents :

Technical file dated April 3, 2000.
This file includes 26 items (37 pages).

A-2 EC Type Examination Certificates



(A1) ANNEXE

(A2) ATTESTATION D'EXAMEN CE DE TYPE

LCIE 00 ATEX 6009 X (suite)

(A5) Conditions spéciales pour une utilisation sûre

La partie de matériel protégée par le mode de protection "m" devra être protégée à sa source d'alimentation par un fusible ayant un pouvoir de coupure adapté au courant de court-circuit de l'appareil.

(A6) Exigences essentielles en ce qui concerne la sécurité et la santé

La conception du matériel satisfait aux normes européennes EN 50014, EN 50018, EN 50019 (seconde édition) et EN 50028 (1987).

L'enveloppe antidéflagrante est dispensée d'épreuve individuelle.

La partie d'équipement protégée par le mode de protection "m" est soumise à l'épreuve individuelle suivante :

- Examen visuel suivant le paragraphe 7.1 de EN 50028.
- Épreuve diélectrique suivant le paragraphe 7.2 de EN 50028.
- Vérification des caractéristiques électriques suivant le paragraphe 7.3 de EN 50028.

(A1) SCHEDULE

(A2) EC TYPE EXAMINATION CERTIFICATE

LCIE 00 ATEX 6009 X (continued)

(A5) Special conditions for safe use

The part of the equipment protected by the type of protection "m" must be protected by fuse supply which has a breaking capacity adjusted to the short circuit of the equipment.

(A6) Essential Health and Safety Requirements

The design of the equipment complies to European standards EN 50014, EN 50018, EN 50019 (second edition) and EN 50028 (1987).

The flameproof enclosure is exempted from routine test.

The part of equipment protected by the type of protection "m" is submitted to the following routine test :

- Visual examination according to the paragraphe 7.1 of EN 50028.
- Dielectric strength test according to the paragraph 7.2 of EN 50028.
- Verification of electrical characteristics according to the paragraph 7.3 of EN 50028.

A-2 EC Type Examination Certificates



(A1) **ATTESTATION D'EXAMEN CE DE TYPE**
LCIE 00 ATEX 6009 X du 2 mai 2000
AVENANT 00 ATEX 6009 X/01

(A1) **EC TYPE EXAMINATION CERTIFICATE**
LCIE 00 ATEX 6009 X dated May 2, 2000
VARIATION 00 ATEX 6009 X/01

(A2) **DÉSIGNATION DE L'ÉQUIPEMENT OU DU**
SYSTÈME DE PROTECTION :

Transmetteur pour analyseur en continu
 Type : CAT
 Construit par : Rosemount Analytical Inc.

(A2) **NAME OF EQUIPMENT OR PROTECTIVE SYSTEM :**

Continuous Analyzer Transmitter
 Type : CAT
 Manufactured by : Rosemount Analytical Inc.

(A3) **OBJET DE L'AVENANT, DESCRIPTION DE**
L'APPAREIL OU DU SYSTÈME DE PROTECTION :

Création d'un deuxième site de production :

Fisher - Rosemount GmbH
 Industriestrasse 1
 D - 63594 HASSELROTH
 GERMANY

Marquage : Inchangé, excepté pour la nouvelle adresse.

(A3) **SUBJECT OF THE VARIATION, DESCRIPTION OF**
EQUIPMENT OR PROTECTIVE SYSTEM :

New alternate facility :

Fisher - Rosemount GmbH
 Industriestrasse 1
 D - 63594 HASSELROTH
 GERMANY

Marking : Unchanged, excepted for the new address.

(A4) **DOCUMENTS DESCRIPTIFS :**

Lettre officielle de Rosemount Analytical Inc. du 25/02/2002.
 (1 page)

Le dossier de certification relatif à l'attestation CE de type
 00 ATEX 6009 X s'applique pour ce nouveau site.

(A5) **CONDITIONS SPÉCIALES POUR UNE UTILISATION**
SÛRE :

Inchangées.

(A4) **DESCRIPTIVE DOCUMENTS :**

Official letter of Rosemount Analytical Inc. dated February 25th,
 2002. (1 page)

The certification file with reference to the EC type examination
 certificate 00 ATEX 6009 X is available for the new facility.

(A5) **SPECIAL CONDITIONS FOR SAFE USE :**

Unchanged.

(A6) **EXIGENCES ESSENTIELLES EN CE QUI**
CONCERNE LA SÉCURITÉ ET LA SANTÉ :

Inchangées.

(A6) **ESSENTIAL HEALTH AND SAFETY**
REQUIREMENTS :

Unchanged.

Fontenay-aux-Roses, le 8 avril 2002

Le Directeur de l'organisme certificateur
 Manager of the certification body

Par délégation
Michel BRÉNON
 Directeur adjoint
 à la Certification

Timbre sec/Dry seal

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LABORATOIRE CENTRAL DES INDUSTRIES ELECTRIQUES

Société anonyme à Directoire et Conseil de surveillance au capital de 15 745 984 euros - RCS Nanterre B 408 363 174

33, avenue du Général Leclerc - BP n° 8 - F 92266 FONTENAY-AUX-ROSES CEDEX - Tél. : +33 1 40 95 60 60

A-2 EC Type Examination Certificates



L C I E

(A1) **ATTESTATION D'EXAMEN DE TYPE**
LCIE 00 ATEX 6009 X du 2 mai 2000
AVENANT LCIE 00 ATEX 6009 X/02

(A1) **TYPE EXAMINATION CERTIFICATE**
LCIE 00 ATEX 6009 X dated May 2nd, 2000
VARIATION LCIE 00 ATEX 6009 X/02

(A2) **DESIGNATION DE L'EQUIPEMENT OU DU**
SYSTEME DE PROTECTION :

Transmetteur pour analyseur en continu
 Type : CAT...

Construit par : EMERSON PROCESS Management

(A2) **NAME OF EQUIPMENT OR PROTECTIVE SYSTEM :**

Continuous Analyser Transmitter
 Type : CAT...

Manufactured by : EMERSON PROCESS Management

(A3) **OBJET DE L'AVENANT, DESCRIPTION DE**
L'APPAREIL OU DU SYTEME DE PROTECTION :

- Changement de raison sociale et de l'adresse du demandeur qui deviennent :
 EMERSON PROCESS Management
 Manufacturing GmbH & Co. OHG
 Industriestrasse 1
 63594 HASSELROTH
 ALLEMAGNE

- Modifications du panneau de commandes pour que les touches soient rendues activables magnétiquement.

(A3) **SUBJECT OF THE VARIATION, DESCRIPTION OF**
EQUIPMENT OR PROTECTIVE SYSTEM :

- New company name and address of applicant, which become :
 EMERSON PROCESS Management
 Manufacturing GmbH & Co. OHG
 Industriestrasse 1
 63594 HASSELROTH
 GERMANY

- Modifications of the front panel, so as keys become magnetically activated.

Modification du marquage :

Raison sociale et adresse remplacés par :

EMERSON PROCESS Management
 Manufacturing GmbH & Co. OHG
 Industriestrasse 1
 63594 HASSELROTH
 ALLEMAGNE

(A4) **DOCUMENTS DESCRIPTIFS :**

Dossier technique N° 4.271-6078/4 Rév. 3 du 14 juillet 2003.
 Ce dossier comprend 11 rubriques (23 pages).

(A5) **CONDITIONS SPECIALES POUR UNE UTILISATION**
SURE :

Inchangées.

(A6) **VERIFICATIONS ET EPREUVES INDIVIDUELLES :**

Inchangées.

(A7) **EXIGENCES ESSENTIELLES EN CE QUI**
CONCERNE LA SECURITE ET LA SANTE :

Fontenay-aux-Roses, le 4 septembre 2003

Modification of the marking :

Company name and address replaced by :

EMERSON PROCESS Management
 Manufacturing GmbH & Co. OHG
 Industriestrasse 1
 63594 HASSELROTH
 ALLEMAGNE

(A4) **DESCRIPTIVE DOCUMENTS :**

Technical file No. 4.271-6078/4 Rev. 3 dated July 14th, 2003.
 This file includes 11 items (23 pages).

(A5) **SPECIAL CONDITIONS FOR SAFE USE :**

Unchanged.

(A6) **INDIVIDUAL EXAMINATIONS AND TESTS :**

Unchanged.

(A7) **ESSENTIAL HEALTH AND SAFETY REQUI-**
REMENTS :

Le Directeur de l'organisme certificateur
 Manager of the certification body

P. Marc GIEUX
 Timbre sec/Dry seal

Page 1/1

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Laboratoire Central	BP 8	Fax : +33 1 40 95 60 50	et conseil de surveillance
des Industries Electriques	92266 Fontenay-aux-Roses cedex	contact@lcie.fr	au capital de 15 745 000 €
Une société de Bureau Veritas	France	www.lcie.fr	RCS Nanterre B 408 363 174

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A-2 EC Type Examination Certificates



L C I E

(A1) ATTESTATION D'EXAMEN CE DE TYPE
 LCIE 00 ATEX 6009 X du 2 mai 2000
 AVENANT LCIE 00 ATEX 6009 X/03

(A1) EC TYPE EXAMINATION CERTIFICATE
 LCIE 00 ATEX 6009 X dated May 2nd, 2000
 VARIATION LCIE 00 ATEX 6009 X/03

(A2) DESIGNATION DE L'EQUIPEMENT OU DU SYSTEME
 DE PROTECTION :

Transmetteur pour analyseur en continu
 Type : CAT...

Construit par : EMERSON PROCESS Management

(A2) NAME OF EQUIPMENT OR PROTECTIVE SYSTEM :

Continuous Analyser Transmitter
 Type : CAT...

Manufactured by : EMERSON PROCESS Management

(A3) OBJET DE L'AVENANT, DESCRIPTION DE
 L'APPAREIL OU DU SYTEME DE PROTECTION :

- Mise à jour des documents techniques ne remettant pas en cause les modes de protection.
- Remplacement d'un bouchon entre l'enveloppe antidéflagrante et la boîte de sécurité augmentée par une traversée de cloison, permettant la mise en place d'un bus de données et offrant une nouvelle possibilité d'entrée/sortie de signal.
- Ajout d'un perçage supplémentaire sur la boîte de sécurité augmentée pour offrir une nouvelle entrée/sortie de signal.
- Possibilité de monter dans la boîte de sécurité augmentée des bornes de raccordement EEx e d'un type certifié, autres que les bornes Phoenix.
- Ajout de deux nouveaux principes de mesure :
 - Transmetteur d'oxygène certifié KEMA 03 ATEX 1505 U.
 - Capteur électrochimique d'oxygène TO2.
- Augmentation de la puissance dissipée : 240 W, sans modification du classement en température.

Modification du marquage :

Inchangé.

(A3) SUBJECT OF THE VARIATION, DESCRIPTION OF
 EQUIPMENT OR PROTECTIVE SYSTEM :

- Update of the technical documents, which not affect the types of protection.
- Replacement of a plug between flameproof enclosure and increased safety box by a feedthrough, permitting the adjunction of a Foundation Fieldbus and offering an additional available input/output signal option.
- Adjunction of an additional drilling on increased safety box, offering a new possibility of input/output signal.
- Possibility to install In increased safety box terminals with EEx e certification, in supplement to Phoenix type Ex contacts.
- Adjunction of two new measuring principles :
 - Oxygen transmitter certified under reference KEMA 03 ATEX 1505 U.
 - Electrochemical oxygen sensor TO2.
- Increase of the dissipated power : 240 W, without modification of the temperature classification.

Modification of the marking :

Unchanged.

(A4) DOCUMENTS DESCRIPTIFS :

Dossier technique N° 4.271-8078/4 Rév. 4 du 11 décembre 2003.
 Ce dossier comprend 26 rubriques (33 pages).

(A4) DESCRIPTIVE DOCUMENTS :

Technical file No. 4.271-8078/4 Rev. 4 dated December 11th, 2003.
 This file includes 26 items (33 pages).

(A5) CONDITIONS SPECIALES POUR UNE UTILISATION
 SURE :

Inchangées, avec en supplément :

Le transmetteur d'oxygène certifié KEMA 03 ATEX 1505 U est un matériel associé de sécurité intrinsèque qui n'est pas prévu pour le raccordement de matériels de sécurité intrinsèque. Aucun équipement certifié de sécurité intrinsèque ne devra être utilisé en association avec ce matériel.

(A5) SPECIAL CONDITIONS FOR SAFE USE :

Unchanged, with in supplement :

The oxygen transmitter certified under reference KEMA 03 ATEX 1505 U is an associated intrinsic safety apparatus which is not intended to be connected to intrinsic safety equipments. Any certified intrinsic safety equipment shall not be used in association with this product.

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des Industries Electriques	92266 Fontenay-aux-Roses cedex	contact@lcie.fr	au capital de 15 745 984 €
Une société de Bureau Veritas	France	www.lcie.fr	RCS Nanterre B 406 363 174

A-2 EC Type Examination Certificates



(A1) ATTESTATION D'EXAMEN CE DE TYPE
LCIE 00 ATEX 6009 X du 2 mai 2000

AVENANT LCIE 00 ATEX 6009 X/03
(suite)

(A1) EC TYPE EXAMINATION CERTIFICATE
LCIE 00 ATEX 6009 X dated May 2nd, 2000

VARIATION LCIE 00 ATEX 6009 X/03
(continued)

(A6) VERIFICATIONS ET EPREUVES INDIVIDUELLES :
Inchangées.

(A6) INDIVIDUAL EXAMINATIONS AND TESTS :
Unchanged.

(A7) EXIGENCES ESSENTIELLES EN CE QUI
CONCERNE LA SECURITE ET LA SANTE :
Inchangées.

(A7) ESSENTIAL HEALTH AND SAFETY REQUIREMENTS :
Unchanged.

Fontenay-aux-Roses, le 3 juin 2004

Le Directeur de l'organisme certificateur
Manager of the certification body

Timbre sec/Dry seal

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A-2 EC Type Examination Certificates



(A1) **ATTESTATION D'EXAMEN CE DE TYPE**
LCIE 00 ATEX 6009X
du 02 mai 2000
AVENANT 00 ATEX 6009X /04

(A1) **EC TYPE EXAMINATION CERTIFICATE**
LCIE 00 ATEX 6009X
dated May 2nd, 2000
VARIATION 00 ATEX 6009X /04

(A2) **DESIGNATION DE L'EQUIPEMENT OU DU**
SYSTEME DE PROTECTION :

Transmetteur pour analyseur en continu
 Type : CAT...

Construit par : EMERSON PROCESS Management

(A2) **NAME OF EQUIPMENT OR PROTECTIVE SYSTEM :**

Continuous analyser transmitter
 Type : CAT...

Manufactured by : EMERSON PROCESS Management

(A3) **OBJET DE L'AVENANT, DESCRIPTION DE**
L'APPAREIL OU DU SYTEME DE PROTECTION :

Remplacement du dispositif de respiration par un
 bouchon : Ajout du degré de protection IP66

Marquage :

EMERSON PROCESS Management
 Adresse
 Type : CAT...
 N° de fabrication
 Année de fabrication
 II 2 G
 EEx d e m IIB + H₂ T4
 LCIE 00 ATEX 6009X
 Caractéristiques électriques
 Ta : +0°C à +50°C
 IP 66
 NE PAS OUVRIR SOUS TENSION.

(A4) **DOCUMENTS DESCRIPTIFS :**

Dossier technique N° 4.271-6078/4 Rév. 5 du 27 janvier
 2005.
 Ce dossier comprend 5 rubriques (8 pages).

(A5) **CONDITIONS SPECIALES POUR UNE UTILISATION**
SURE :

Inchangées

(A6) **VERIFICATIONS ET EPREUVES INDIVIDUELLES :**

Inchangées.

(A7) **EXIGENCES ESSENTIELLES EN CE QUI**
CONCERNE LA SECURITE ET LA SANTE :

Inchangées.

Fontenay-aux-Roses, le 18 février 2005

(A3) **SUBJECT OF THE VARIATION, DESCRIPTION OF**
EQUIPMENT OR PROTECTIVE SYSTEM :

Replacement of the breather by a plug:
 Add of protection degree IP66

Marking :

EMERSON PROCESS Management
 Address
 Type : CAT...
 Serial number
 Year of construction
 II 2 G
 EEx d e m IIB + H₂ T4
 LCIE 00 ATEX 6009X
 Electrical characteristics
 Ta : +0°C à +50°C
 IP 66
 DO NOT OPEN WHILE ENERGIZED.

(A4) **DESCRIPTIVE DOCUMENTS :**

Technical file N° 4.271-6078/4 Rév. 5 dated January 27, 2005.

This file includes 5 items (8 pages).

(A5) **SPECIAL CONDITIONS FOR SAFE USE :**

Unchanged

(A6) **INDIVIDUAL EXAMINATIONS AND TESTS :**

Unchanged.

(A7) **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS :**

Unchanged.

Le Directeur de l'organisme certificateur
 Manager of the certification body

Timbre sec/Dry seal

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des Industries Electriques	92200 Fontenay-aux-Roses cedex	contact@lcie.fr	BOF N°101533347
Une société de Bureau Veritas	France	www.lcie.fr	

Instruction Manual

HAS9xE-IM-ATEX
07/2005

CAT

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